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THE IMPACT OF MIGRATION ON LITHUANIAN ECONOMY IN AN AGEING SOCIETY CONTEXT

Abstract:

Because of rapid population ageing Lithuania possesses new economic and social challenges. One of these challenges is the shortage of labour force in the future, which will have a negative impact on the country's economy. Thus, in this paper the study on impact of one of the significant factors of population ageing - migration - on the economy of Lithuania is conducted. Using a system of variables of net migration, gross domestic product, wage and unemployment rate a structural vector error correction model is developed. The paper also claims that, there is urgent need to implement effective policy means in order to maximize the migration related opportunities and minimize the costs. In addition, while migration can contribute to the growth of Lithuanian economy, it cannot provide by itself a solution to the demographic problems and budgetary implications of an ageing population.

Keywords:

Introduction

Low fertility level, huge flows of emigration and population ageing are the key demographic forces having negative impact on country's economic development in the long run. This is especially relevant for Lithuania, the country with one of the most rapidly ageing populations in European Union.

Analysis of Lithuania's demographic data shows a progressive process of population ageing and the necessity of overcoming its consequences. According to Statistics Lithuania data, since the restoration of independence total fertility rate has dropped from 2.03 in 1990 to below-replacement fertility level of 1.23 in 2002. There has been a recovery of fertility over the past decade and total fertility rate reached 1.6 in 2012 (Statistics Lithuania, 2014). Also, with increasing quality of life the average life expectancy has raised from 71.46 to 73.98 years, respectively. During the 23 year period of time the median age of population - with half the population older and half younger - has increased by ten years (from 32 to 42) (Statistics Lithuania, 2014). The share of people over 65 years old in Lithuania is currently 18%, it is expected to be 31.2% by 2060 (European Commission, 2012).

The process of countries' population ageing is also affected by the large scale of emigration: migrants are more likely to be of working age. Since independence (during the 1990-2013 period) approximately 790 thousand Lithuanians left the native country, while about 150,000 immigrated to Lithuania (Statistics Lithuania, 2012 and 2014). According to the most recent preliminary data the total number of declared departures exceeded the number of immigrants by 16.7 thousand people in 2013. The net migration rate in Lithuania is negative and one of the highest among EU countries: in 2012 it was -7.1 people per 1,000 populations.

It is widely recognized, that because of continuing ageing process and current extent of emigration, a shortage of skilled workers can be expected in the future, slowing down the development of country's economy and further social development of the society.

The aim of this paper is, using Statistics Lithuania data for the period of 2002 Q1– 2013 Q3, to analyse the impact of net migration on the economy of Lithuania in order to estimate if migration can be one of the possibilities for overcoming challenges of population ageing.

The next section discusses the economic effects of migration from theoretical perspective.

Literature review

According to the results of various authors' studies the impact of migration on the economies of home and host countries is ambiguous. Since Lithuania is faced with the problem of large-scale emigration, researchers of the country focus in essence on the economic impact of emigration only; there are just a few studies analysing immigration impact on the economy of Lithuania. Therefore, in this section the recent research about the different economic effects of emigration and immigration in various countries were reviewed.

A 2006 study by Karpavicius, using the dynamic general equilibrium model found, that the impact of emigration on the Lithuanian economy since country joined the European Union in 2004 is ambiguous. The model built predicts that the welfare, which is measured by the weighted sum of consumption and leisure, of low-skilled labour increases due to emigration. In the short-run, the welfare of high-skilled labour increases too, but in the medium-run the impact of emigration on the welfare of high-

skilled agents is ambiguous. In the medium-term, the model suggests a 0.5 and 1.1 percentage point decrease in the unemployment rates of high and low-skilled agents respectively. Wages of skilled workers will fall by 2%, but wages of unskilled labour are forecasted to grow by 4%. The results obtained imply reduced tightness of the fiscal budget and lower tax rate. In the short-term, the annual loss of total output (gross domestic product) due to emigration is 0.7–1.0%, but output per capita will rise additionally by 0.5% annually.

It should be noted that Lithuania has the highest remittance to gross domestic product (hereinafter referred to as GDP) ratio in European Union: 3.9% over the period 2007–2011 and 3.6% in 2012 (World Bank, 2013). Poland is the country receiving the biggest absolute amounts of remittances in the EU. That is why Kasnauskiene and Buzyte (2011) selected these two countries in order to estimate an impact of remittances on Lithuanian and Polish economic growth. In the research multiple regression analysis for 1994–2009 data was conducted. The hypothesis of the article stating that the effect on economic growth caused by emigrants' remittances is greater in Lithuania because this country receives bigger flows of remittances to its GDP compared with Poland was rejected. The results of the study have shown that the ratio of emigrants' remittances to the GDP does not have a positive effect on greater impact of remittances, and in both cases emigrants' remittances are not statistically significant in the model that explains economic growth. Despite the fact that, in Lithuania, remittances have a negative impact on the GDP growth per capita, in Poland remittances influence GDP growth per capita positively. These differences may occur because of the different structure of the remittances, disparity of the factors that drive remittances and the inequality in the efficiency of the use of these cash flows.

Bouton et al. (2011) estimated emigration's impact on wages in Moldova (Moldova's emigrant population represents about a third of the total labour force in the country). Authors have found a positive and significant impact of emigration on wages. The baseline result suggests that, on average, a 10% increase in the emigration rate is associated with 3.2% increase in wages. The estimated effect of emigration also revealed significant differences across economic sectors. The authors speculate and provide some evidence that offsetting changes in labour demand, as revealed by information on employment growth by sector, may help explain some of the heterogeneity.

Docquier et al. (2011) analysed the labour market effects of migration in all OECD countries. Authors used an aggregate model of an economy (1990 - 2000 years period) where the workers in the labour force are differentiated by their place of birth, education and skill levels. The study has shown that in all cases immigration has a positive effect on the wage of less educated natives, increases or leaves the average native wages unchanged and has a positive or no effect on native employment. It was also found that emigration has a negative effect on the wage of less educated native workers and contributes to increase the within country inequality in all OECD countries.

Dustmann et al. (2012) estimated the effect of emigration from Poland (over the 1998–2007 period) on the labour market of the country. The results of the study have shown that emigration from the country contributes to overall wage growth, particularly for workers in the intermediate skill group, which experienced the largest negative labour supply shock. It was also found that emigration has a slightly positive impact on the average wages of those who did not emigrate, but the workers at the low end of the skill distribution made no gains and may actually have experienced slight wage decreases.

Damuliene (2013) analysed the problem of migration in Lithuania and the relationship between emigration flows and the country's main economic indicators. By using the method of correlation analysis for 2001–2010 data, it was found that the strongest statistically significant positive correlation is between the number of emigrants and private remittances to Lithuania. These cash inflows increase aggregate demand, domestic consumption and GDP growth, but also increase inflation. A strong positive correlation was also found between the number of emigrants and the average gross monthly earnings.

Kasnauskiene and Budvytyte (2013) analysed causes and consequences of brain circulation (the migration of skilled individuals from their home country to another and then later coming back to their home country to take advantage of new opportunities that have opened up back home) in Lithuania. The results of vector autoregression model have shown that an increase of brain circulation reduces GDP per capita while an increase of net monthly salary can be seen during the first few time periods. Unemployment rate decreases at first as a response to the increase of brain circulation. Research also showed that brain circulation explains between 12 to 15% of the variance of GDP per capita, about 24 % of the variance of average net monthly salary and one fourth of the variance of unemployment rate.

It should be emphasised that population emigration may not only have negative aspects as depopulation, decreasing labour force or population ageing but also can endow the country with welfare in terms of reducing poverty, increasing consumption and investment in the money receiving country.

As noted in many papers, economic impact of immigration in various countries can be also different. Lemos and Portes (2008) estimated the impact of immigration from the new EU member states (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia) on native workers of the United Kingdom. By using a modified model based on the standard neoclassical theory authors have found no statistically significant impact of immigration from the new EU member states on claimant unemployment, either overall or for any identifiable subgroup. The study also has shown no adverse impact on the young or low-skilled workers, any statistically significant impact on average wages or at any point in the wage distribution.

Sibanda (2008) in his research analysed economic impact of immigrants on the South Africa's labour market in 1980–2006 by using two error correction models for unemployment and wage. The results of this study have shown that immigration increases unemployment (a 1% increase in the number of immigrants' increases unemployment by 0.1%) with regard to the displacement of natives in the local labour market. Author has also found that a 1% increase in migrant labour increases wages by 0.01% in period two. This result can exist because wages may not fall due to an increase in labour supply, immigrants can promote the host country's productivity growth.

Berzinskiene et al. (2010) estimated the impact of immigration on the indicators of the labour market of Lithuania. Authors used the method of linear correlation analysis for 2003–2008 data. The study has found strong meaningful statistical relationship between the number of immigrants and unemployed people, unemployment rate and employment indicators. However, number of immigrants comparing to absolute labour force indicators was too small to affect the labour market. Study suggested that the process of immigration is more a consequence of labour market changes than a cause.

Fromentin (2012) in his study analysed the relationship between immigration, the labour market and economic development in France using 1970–2008 data. In this research an econometric analysis based on the vector error correction model was

done. Author has found a negative relationship between the net inflow of immigrants and unemployment in both the short and the long run. Immigration reduces unemployment in the short run because immigrants integrate rapidly into the labour market by taking available jobs or the jobs that are neglected by native workers. Immigration reduces unemployment in the long run due to the creation of more jobs than immigrants fill owing to the growth of demand. The study also has shown positive immigration impact on real wages.

Migration Advisory Committee (hereinafter referred to as MAC) (2012) analysed the associations between migration and native employment rates in the United Kingdom. The MAC results indicated that an increase of 100 working-age migrants from non-EU countries was associated with a reduction of 23 natives in employment for the period 1995–2010. However, inflows of working-age EU migrants had no statistically significant association with native employment over this period. The MAC study has also shown that an inflow of 100 foreign-born working-age migrants was associated with a reduction in native employment by approximately 30 in the same year when there was low economic growth or economic downturn. In addition, the association seemed to be statistically insignificant in the period of economic boom.

Kasnauskiene and Seskaite (2012) analysed causes of immigration and immigration's impact on the economy of Lithuania. By using a regression model authors have found that immigration to Lithuania has a positive influence on country's GDP, employment rate and the number of small and medium enterprises (hereinafter referred to as SME). An increase in GDP due to immigration can be linked with the labour shortage in Lithuania during the years of economic growth. Employment rate increases because immigrants take existing job vacancies instead of taking away jobs from the local workers. However, the study has shown that immigration to Lithuania reduces the average wage in the country and raises the amount of the total unemployment relief paid every year by the government of Lithuania.

Kasnauskiene and Vebraite (2013) estimated the impact of immigration on the labour market of the United Kingdom in 1991–2010. By using a structural vector error correction model it was found that immigration reduces real wages and increases unemployment in the short run. This is because immigrants increase labour supply in the host country, so the pressure on wages increases. Moreover, immigrants are more preferred by employers as compared with native workers, because they usually under-price themselves in the labour market of the host country. The application of linear regression models has shown that immigration, ceteris paribus, negatively influences unemployment and real wages in the long run. A negative relationship between immigration and unemployment in the long run exists, because occupying jobs, immigrants at the same time create new jobs through their demand for goods and services.

To sum up, previous research has reached mixed conclusions about the different economic effects of emigration and immigration in various countries and does not give a definite answer to the question, how exactly international movement of people affects home and host countries' economy? The specific impact of migration flows depends on the models used by the authors, variables chosen, characteristics of the countries, periods of the studies, etc.

Current trends of migration

Statistical data shows that 40.4 thousand residents departed from the native country in 2013, and 23.7 thousand persons entered Lithuania that year (see Figure). Many people have travelled westwards and are working in the old EU countries (especially

the UK, Ireland and Spain) and Norway. The main socio-economic push factors that contribute to large scale of emigration from Lithuania are low overall employment, high rates of youth unemployment, high numbers of minimum monthly wage earners (even during periods of economic growth), a prevalent in-work poverty among low-educated single parents with dependent children, a low minimum income scheme, weak social safety nets and the accumulated experience of emigration (Krupickaite and Poviliunas, 2012). Young people and people of employable age are usually leaving the country: working-age emigrants accounted for 86% of all emigrants in 2012, emigrants of 20–29 years old accounted for 41% of all emigrants (Statistics Lithuania, 2014). Most emigrants who have not declared their departure are low-skilled workers, however the proportion of emigrants with a higher education level and high-skilled workers are relatively high: it was estimated that roughly about one fifth of all the emigrants are individuals with tertiary education (Kasnauskiene and Budvytyte, 2013).
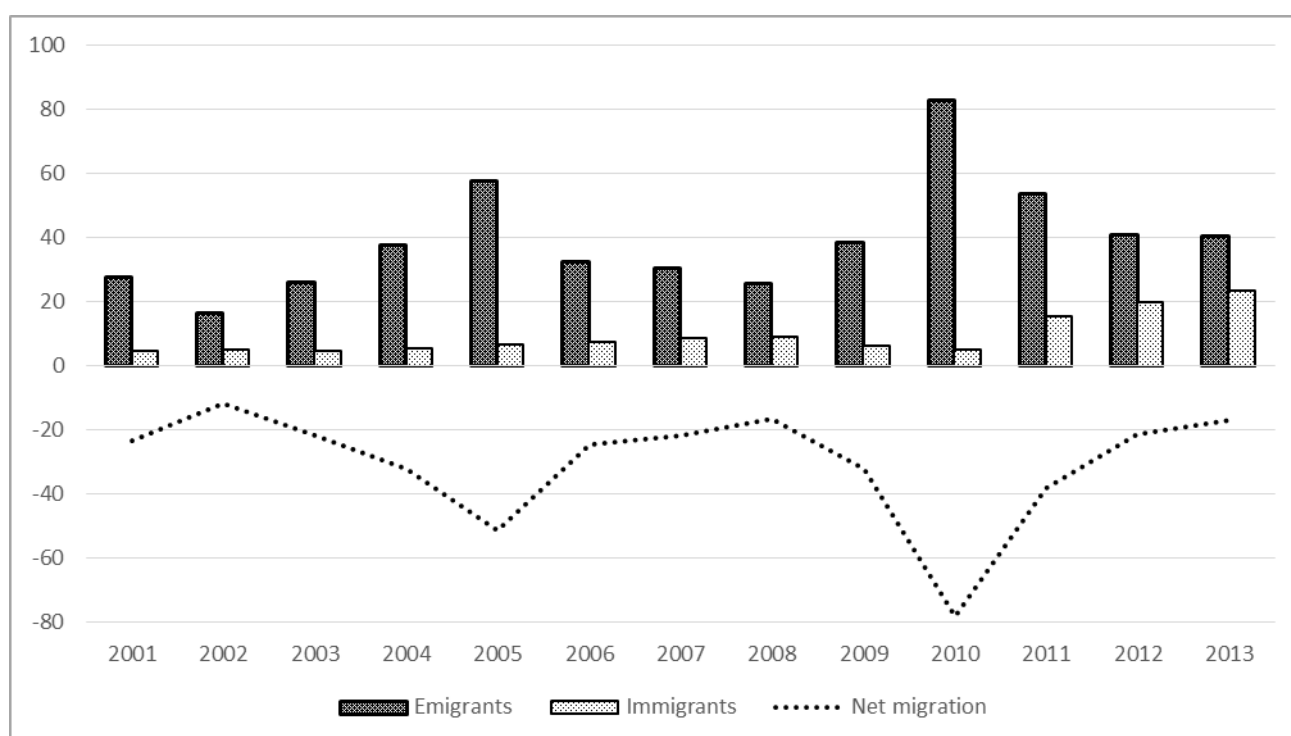
Note: significant growth of number of emigrants in 2010 is caused by changes in the Health Insurance Law which required all Lithuanian residents to pay for the national health insurance. The Law encouraged those, who had emigrated earlier, to declare their departure in 2010 in order to avoid payments. As a result people started to declare both their arrival and departure more diligently.
Figure. International migration flows in Lithuania during 2001–2013, in thousands.
Source: Statistics Lithuania.

The immigration of foreigners to Lithuania remains low, having only some compensatory effect. Half of immigrants entered Lithuania for the purposes of employment, family-related immigration represented 36%, and the share of immigration for studies was 10 % in 2012. The rising flow of immigrants to Lithuania during the last three years (2011–2013) is mainly caused by the growing extent of repatriating Lithuanians. Citizens of the Republic of Lithuania returning from the United Kingdom, Ireland and Norway accounted for the majority of entries in 2012 (87% of all arrivals) (Statistics Lithuania, 2014). Most of foreign nationals are immigrating from Belarus, Russian Federation and Ukraine.

For the immigrants of third countries Lithuania applies immigration policy based on the principal of demand – only the foreign citizens of respective professions whose shortage are clearly defined may immigrate to work in the country (if there is no specialist in Lithuania meeting qualification requirements of an employer). There were 1,158 work permits for foreigners issued in the first quarter of 2013 and 4,627 in 2012. 82% of work permits were issued to work in the sector of services in 2012, in the first quarter of 2013 such a permits accordingly was 87%. The most work permits in 2012 were issued for the citizens of Belarus, Ukraine, China, Russia and Moldova who are qualified to perform particular work, usually in the areas of ship maintenance, catering and transport. There are high-skilled workers which have work permits for the positions of an engineer of computer systems, a doctor, a director, etc. (Lithuanian Labour Exchange, 2013).

It should be noted that Lithuanian citizens attitude toward labour immigration is negative. International Organization for Migration study revealed that even 57.8% of respondents evaluate immigration to Lithuania as a negative phenomenon (International Organization for Migration, 2010). Study claims that respondents' evaluation of immigration as a phenomenon is more reflective of prejudices and beliefs than the actual situation. Respondents evaluate labour immigrants from third countries unfavourably because of increased competition in the labour market, immigrants' inability to work qualitatively, desire to take advantage of the social system of Lithuania, impact of the culture of foreign immigrants, possible increase in criminality, or even the threat of terrorism. Respondents evaluating labour immigrants favourably think that immigrants have high professional qualification (particularly workers arriving from the EU), contribute to economic growth and increase cultural diversity. Negative attitude towards immigrants and immigrant labour leads to the fact that the majority of Lithuanian population (65.9%) favour of labour immigration restriction and only 3.8 % – of the promotion of immigration (International Organization for Migration, 2010).

Impact of migration on the economy of Lithuania

Empirical Methodology

The studies of the authors provide no definite conclusion for the impact of emigration and immigration on the economies of migrants sending and receiving country. In order to define these effects on the economy of Lithuania, an analytical model was developed. In this section a brief non-technical description of the model is presented.

In order to estimate the influence of migration on Lithuania's economy, the structural vector error correction (hereinafter referred to as SVEC) model was constructed in this study. First of all, with reference to theoretical findings, appropriate variables were chosen. Later, these variables were tested for stationarity, and cointegration tests were done. Then SVEC model for the period of 2002 Q1–2013 Q3 was developed.

One of the model variables is net migration as a difference between the number of immigrants and emigrants in the country (NM). Due to the large scale of emigration and small immigration flows net migration of the country is negative. Another variable of the model is real GDP (RGDP) in Lithuania (index compared to the previous period). One more variable of the model is unemployment rate (UN), i.e. the percentage of unemployed people in the working-age population. The last model variable is real wages (RW) of private sector excluding individual enterprises

expressed as index, compared with the previous period. Seasonally adjusted quarterly data for the period of 2002 Q1–2013 Q3 was used in the model.

Theoretical model which was used as a reference to econometric calculations is defined in the following form:

$$y_t = \alpha_0 + \beta_i y_{t-i} + \varepsilon_t$$

where y_t is the vector composed of four elements: net migration, the real GDP, the unemployment rate and real wages; α_0 represents the vector of constant terms; and ε_t defines the error term.

The first step in an econometrical study is to determine whether the model variables are stationary (the estimation procedure of the model is determined by the degree of integration of the variables). In order to determine the stationarity of a series, the Augmented Dickey–Fuller (hereinafter referred to as ADF) Test and Zivot–Andrews Unit Root (hereinafter referred to as ZA) Test were done in this study. The ADF Test is an augmented version of Dickey–Fuller Test (Dickey Fuller Test can sometimes reject the null hypothesis, even if this hypothesis is correct). ZA Test is the improvement of Perron structural break test. ZA Test verifies the existence of unit roots in the presence of structural break (due to the structural change stationary process may seem like non-stationary process).

First of all, the variables of real GDP and real wages were converted to logs (only the variables which are characterized by the explicit long-term growth trend can be converted to logs). Then the ADF Test and ZA Test for variables and later for once differentiated variables were done. The results of these tests showed that first differences of model variables' are stationary (integrated of order one at a 5% significance level).

After the procedure of stationary, cointegration tests were done. Cointegration is defined as a long-run relationship among the variables, so it allows determining whether the impact of migration on the economy of Lithuania in the long run exists. The Johansen test and Lütkepohl, Saikkonen & Trenkler (hereinafter referred to as LST) procedure were used to determine the existence of cointegration relationships. LST procedure estimates the number of cointegrating vectors in the presence of structural shocks. It is important because due to the structural shocks variables of the model may be defined as cointegrated although they are not cointegrated. Therefore, according to the Johansen test and LST procedure there is one cointegrating vector in the model.

According to Granger's representation theorem, the existence of a cointegrated system (in this case, the existence of one cointegrating vector) implies the presence of an error correction mechanism (Granger, 1988). Consequently, based on the vector error correction model, SVEC model was developed. But, before the development of the model, 7 assumptions about the relationships between model variables were accepted. Because the number of cointegrating vectors is one, changes of one of the model variables have no long-term impact on all the variables of the model. The cointegration analysis suggests that real wages relation is stationary, so real wage shocks do not affect net migration, real wages, unemployment rate and real GDP in the long run. Unemployment shocks have no long run impact on real GDP because in the long run real GDP is influenced by the growth of population, investments, technological advancements, etc. Real GDP shocks do not impact unemployment rate in the long run because unemployment rate is affected by employment policy, economy structure, unemployment insurance system and level of labour costs in the long-term. Last model assumption states that in the short run unemployment shocks do not influence the changes of real wages.

Results and interpretation

The results of SVEC model are presented in the table below.

Table. *Results of structural vector error correction model*

	RW	UN	RGDP
NM $_{t-4}$	0.2152	-2.0523	0.0358
NM $_{t-8}$	0.2156	-2.1495	0.0030
NM $_{t-12}$	0.2158	-2.1579	0.0004
NM $_{t-20}$	0.2158	-2.1587	0.0002
NM $_{t-28}$	0.2158	-2.1587	0.0002

Source: calculated by the authors with the use of R software.

As indicated in the table negative net migration has positive impact on real wages in Lithuania. A 1 standard deviation increase in net migration increases real wages by 0.2152 standard deviations after one year since migration, 0.2156 standard deviations – after two years, 0.2158 standard deviations – after three, after five and after seven years. In addition, impact of migration on real wages becomes permanent over time. Thus, emigration of workers may improve the real wages of those who remain in the source country. Also, it seems reasonable to conclude that migration raises real wages because immigrants do not compete with native workers of the host country but complement them. Zaretsky (1997) states that only native workers who compete with immigrants and have similar skills receive lower wages, but the local workers who are working together with immigrants and complement each other skills receive higher wages. The results obtained in this study can also be explained by the Keynesian theory which argues that wages may not fall due to an increase in the labour supply. Furthermore, immigrants can increase wages in the host country by promoting country's productivity growth. The positive relationship between immigration and wages was also found by Fromentin (2012) in the study of France, Sibanda (2008) in the study of South Africa, Addison and Worwick (2002) in the case of Australia.

The results of SVEC model show that migration has a negative impact on unemployment rate. If net migration in Lithuania increases by 1 standard deviation, after one (two, five) year unemployment decreases by 2.0523 (2.1495, 2.1587, respectively) standard deviations. Moreover, SVEC results revealed that migration's impact on unemployment rate increases over time. Migration reduces unemployment rate not only because unemployed native working force leaves the country. Our findings lead to the assumption that immigrants integrate rapidly into the labour market by taking existing job vacancies (including those neglected by native workers), so immigrant workers are likely to be complements with native workers. The results obtained can also be explained by the fact that immigrants create more jobs than they fill in due to the growth of demand (Altonji et al., 1991), it means that immigrants create new jobs through their demand for goods and services. The negative relationship between immigration and unemployment rate was also found by Kasnauskiene and Seskaite (2012) in the study of Lithuania, Boubtane et al. (2012) in the study of 22 OECD countries, Fromentin (2012) in the study of France.

Finally, the table also shows that migration has a positive impact on real GDP in Lithuania. A 1 standard deviation increase in net migration raises real GDP by 0.0358 (0.0030, 0.0002) standard deviations after one (two, five) year, respectively. Our SVEC results also showed that net migration has a smaller impact on real GDP of the

country when the number of years since migration increases. As it was mentioned before emigrants send substantial amounts of money back to the native country. Immigrants who are employed legally pay taxes, thus increasing the size of the budget revenue collected. Moreover, immigrants supplemented the country's labour market contributes to the host country's productivity (output) growth. Positive relationship between immigration and GDP was found by Kasnauskiene and Seskaite (2012) in the study of Lithuania, Boubtane et al. (2012) in the case of 22 OECD countries, Taylor (1995) in the case of Argentina.

Migration by raising real wages and real GDP and decreasing the unemployment rate can contribute to the development of the country's economy. Therefore migration can be treated as one of the possibilities for overcoming the problems of an ageing population. Immigration can compensate a shortage of skilled workers (the result of ageing population) in the future. However, it is very important how successfully immigrants integrate in the societies of host countries. Much attention should be paid to improving the integration of immigrants into the labour market, community life, and social sphere.

The role of government

International migration is clearly identified as one of the most urgent national problems which have a huge impact on social and economic development for individual migrants, their families and for their country. Migration flows are able to soften financial pressure of population ageing, with youthful country populations filling unwanted job vacancies in „greying" societies. However, in order to have significant benefits, very large immigrant flows are required. It should also be noted that immigrants themselves will become a part of the older population at one of their life-circle stages. Increasing the size of the working-age population through international migration is the only option in the short to medium term to reduce declines in the potential support ratio (United Nations, 2000). Increased immigration therefore could not be treated as a significant contributor to the problems posed by population ageing.

Furthermore many countries employ certain immigration barriers in an effort to protect their economies from low-paid foreigners, who are taking advantage of the social system, and preserve language and cultural traditions. Lithuanian citizens' attitude toward labour immigration is rather negative. International Organization for Migration study revealed that even 57.8% of respondents evaluate immigration to Lithuania as a negative phenomenon (International Organization for Migration, 2010).

In order to regulate economic emigration and promote return migration, the Economic Migration Regulation Strategy was adopted in Lithuania in 2007 (Government of the Republic of Lithuania, 2007). The strategy has two goals: first, to seek to meet the needs of the Lithuanian labour market, and second, to encourage economic migrants to return to the homeland. This strategy was further supported by guidelines for immigration policy, developed in 2008. The first policy-making steps have been taken to facilitate the return of working migrants and their support (creation of incentives for decreasing economic emigration, encouragement of the return of emigrated citizens, implementation of selective immigration policy). In order to return and attract PhD students and scientists with doctor degrees and Lithuanian citizenship from abroad, and encourage the participation of foreign scientists in scientific researches in Lithuania, „Programme of return and attraction of brains" (Protų susigrąžinimo ir pritraukimo programa, 2008) is implemented. Other strategies and programmes are also being implemented in accordance with the basic EU

requirements for regulating economic migration and ensuring the free mobility of workers.

Despite some Lithuania's government efforts towards management of migration the outcomes of programmes implemented do not express the results expected. Unfortunately the country did not have a one single document on a movement of persons related issues policy for a long time. Only recently, in January 2014 the Cabinet of the ministers of Lithuania approved the guidelines of the migration policy which is supposed to "help to eliminate the emigration reasons and to encourage Lithuania's citizens to return to the country" (Lietuvos Respublikos Vyriausybė, 2014).

Management of migration in the ageing society context requires more flexibility and ability to adapt to rapidly changing economic and social needs.

Conclusions

Such demographic changes as a decline in fertility rate, longer life expectancy, and an increased proportion of population over 65 years old reflect the rapid population ageing in Lithuania in recent years. This process is also influenced by the large scale of emigration from the country. Moreover, Eurostat forecasts that population ageing in Lithuania is expected to continue in the decades ahead.

By developing structural vector error correction model and using quarterly statistical data for the period of 2002-2013 Q3, it was found that negative net migration has a positive impact on Lithuania's economy: it increases real wages of those who remain in the native country, leads to the higher economic output (real gross domestic product) for the economy as whole, and decreases unemployment rate.

One of the possibilities for overcoming the challenges of ageing in order to ensure the necessary amount of labour force can be the promotion of return migration and immigration of foreigners because labour migrants increase labour supply in the host country, so it compensates a shortage of skilled labour force. However migration is not a long-term solution for the problems of population ageing and other demographic shifts. The impact of migration on the economies of origin and destination countries is complex and ambiguous, as shown by the research of various authors.

Efficient, demand-driven and empirical evidence based national migration policy could help the labour market function better and generate pro-development outcomes for the country. There is urgent need to implement a complex set of measures towards maximizing the ageing related opportunities and minimizing the costs.

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